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one would rather be or have or do than anything else. And while he conceives philosophy to have relationships to desired ends, including honorable relations among philosophers, he is endeavoring, even by pragmatic methods to discover what form of good is demonstrably the criterion of scientific and philosophical truth. The answer to this question might be of value to pragmatism itself as well as to those who "babble . . . in Cloudecuckoodom" (553) even though it only make the latter resolve that silence is best.

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SOCIETIES

THE TWENTY-EIGHTH ANNUAL MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

ABOUT one hundred and twenty-five psychologists assembled at Harvard University for the twenty-eighth annual meeting of the American Psychological Association on December 29, 30 and 31. The programme for Monday included a session for general psychology, an exhibit of new apparatus and teaching materials, a session for experimental psychology and one for intelligence tests. On Tuesday the psychologists met jointly in the morning with the American Association of Clinical Psychologists and in the afternoon with the American Anthropological Association; the evening being the occasion of the annual dinner and the address of the retiring President, Professor Walter Dill Scott, of Northwestern University. Following the close of the meetings Wednesday noon, many guests visited the Massachusetts State School for Feeble-Minded, the Judge Baker Foundation, the Carnegie Nutrition Laboratory, McLean Hospital, the Psychopathic Hospital and other institutions in the vicinity.

The programme gave 6 titles under general psychology, experimental psychology 16, intelligence tests and clinical psychology 21, comparative psychology 2, social and religious psychology 3, and applied psychology 7. The greatest interest seemed to center in the sessions for intelligence tests, clinical psychology and the work of psychologists in the service of the war and industries. Among the best contributions of the meetings were the results of work of psychologists in various phases of war activities. The pronounced development of the technique of trade-testing, the thorough tryout of intelligence tests by their use on more than a million and a half recruits, with subsequent revision of older notions of median mental levels of unselected as well as psychoneurotic, foreign-born, colored

and other individuals, the need of tests other than those of general intelligence for diagnosis of psychoneurotics, and vocational aptitudes and the need of systematic training and classification of workers in the rapidly growing field of clinical psychology, may be considered the main features of the meetings. That interest is not diminishing in the work in laboratory and experimental psychology on more general topics, was evidenced by the total of 16 papers in these fields.

During the annual business meeting, held Tuesday afternoon, Shepherd I. Franz, Government Hospital for the Insane, Washington, D. C., was elected President of the Association for the coming year; Edward G. Boring, Clark University, Secretary-Treasurer; H. S. Langfeld, Harvard University, and M. V. Bingham, Carnegie Institute of Technology, were elected to the Council. Chicago was selected for the convention in December, 1920. Twenty-seven new members were voted into the association and the deaths, during the year, of John Wallace Baird, Edward Cowles, and August Hoch were reported.

H. S. Langfeld, of Harvard University, reported information just received concerning the work of psychologists in the German army. Tests were devised and applied for the selection of motormen, motor-vehicle drivers, aviators, and for skilled labor in many industries. Apparently but few new methods of selecting men on the basis of innate ability were developed and in the field of trade-testing and in measurements of general intelligence, the work of psychologists in Germany fell short of the accomplishments of psychologists in America.

On the afternoon of Tuesday the Association met jointly with the American Anthropological Association at which time Clark Wissler, American Museum of Natural History, representing the anthropologists, and W. V. Bingham, Carnegie Institute, representing the psychologists, urged a closer coordination and cooperation of the work in the two fields of science. Dr. Wissler pointed out the differences in the equipment and approach of psychologist and anthropologist, the advantages that would result from a combined attack in many cases, and the eagerness of workers in his field to cooperate in the solution of social and industrial problems. Dr. Bingham indicated the practical advantages of a division of anthropology and psychology, enabling at least an annual interchange of opinions and practises. A paper prepared by J. R. Angell, University of Chicago, was read in which both groups of workers were urged to cooperate with the National Research Council in the conduct of investigation.

The retiring President, Walter Dill Scott, Northwestern Univer-

sity, addressed the Association on the subject *Changes in Some of Our Conceptions and Practises in Personnel* on the evening of the annual dinner. Evolution along five lines was emphasized: (1) A history was given of changes in the concept of the amount and nature of individual differences from the older belief that peoples were originally much alike and that such differences as appeared were due to environmental factors, to the present belief that individuals differ enormously in all traits and that such differences are largely innate. "The greatest achievement of the Association has been the establishment of the fact of individual differences and its applications to education, politics, industry and economics."

(2) The importance of reasoning as a factor in adjustment has been superseded by the considerations of instincts, emotions and habits. The operation of instinctive trends as the spring of action and the sources of discontent in industrial life was illustrated by concrete cases. It is not the violation of the workers' logical processes that brings unrest and discontent so much as thwartings of his pride, his desire of social approval, of mastery—his instinctive and emotional trends.

(3) Education in the schools or in the factory must take into account the unlearned forms of reaction to features of the environment and seek to so order the individual and his environment that the desirable adjustments may be made. The work of the personnel director in industry must be enlarged and his function must be that of providing the approved experiences so that desirable habits of response will be built up. Mere richness of content or training of general faculties will not suffice.

(4) Changes have taken place in the concept of man and his environment. A man is not the victim of his environment, he is not the master of it, nor is his function that of subduing or opposing it. The two should evolve together. In industry, the man and his job are not opposed, nor does the concept of selecting the man to fit the job—finding a square peg for a square hole—adequately express the present point of view. The function of the personnel manager is the "creation of the worker in a working situation." The work must be arranged to satisfy the human wants of the worker and he should be set to the task most in harmony with his particular talents and interests. There must be a correlated improvement of the work and the workers.

(5) The last point led to a survey of the evolution of vocational guidance from the chance methods of superstition, guess and incidental inclinations to the modern technique of mental, physical and vocational tests, statistical methods and the like. "In the last century the productivity of the worker has been doubled by the

activities of some 2,000 minds through changes in the material world. In the present century equally great increases in productivity may be expected through the adjustment of worker to the work."

Following are brief summaries of papers presented in the various sessions:

Session for General Psychology

G. V. N. Dearborn, of the Sargent School of Boston, described cases of correlation between arterial blood pressure and certain states of mind. Arterial blood pressure, under control of the autonomic nervous system, is but slightly susceptible to voluntary control but decidedly affected by perceptual or ideational influences provoking emotional reactions. As one aspect of such reactions, arterial blood pressure may sometimes fall as much as 35 mm. during a shift from marked anxiety to calm in the course of 15 minutes. A prescription for "relaxation" which the speaker identified with diminished activity of the autonomic system calls for "pleasant thoughts of non-exciting sort" or "making the mind a blank."

A Behavioristic Interpretation of Concepts was offered by R. C. Givler, of Tufts College. Concepts are "written or spoken words whose meaning is a motor attitude, attunement or set" which occurs as a response to them. The theory, similar in many respects to that of Professor Washburn, makes of meaning a more or less incomplete reaction of eye, hand, articulatory or autonomic muscles. A percept is an acquired motor reaction—thinking is a flow of neuromuscular-tension attitudes which "normally eventuate in some overt reaction" or a "rehearsal or reiteration of action."

A graphic representation of the tonal series from lowest to highest audibility, indicating the volumic spread of the base line, with ordinates for pitch-brightness and intensity was shown by R. M. Ogden, of Cornell University. Evidence was presented indicating brightness to be an independent variable as well as pitch, intensity and volume.

E. G. Boring, of Clark University, offered several cautions concerning the uncritical acceptance of the distribution of mental traits according to the normal probability curve. The form of the distribution depends, for one thing, upon the unit of measurement adopted. If the normal law, moreover, is the law of chance, then two mutually dependent variables for which the relationship is not simply linear—such as height and volume, which varies roughly as its cube—can not have the same form of chance distribution. If the distribution for height is normal, the distribution for volume can not be.

In a paper entitled *Are there any Instincts?* Knight Dunlap, of

Johns Hopkins, criticized looseness of classification of instincts on teleological grounds as confusing and often misleading. We should speak of "instinctive activities" defining the situations and responses as well as may be and discard, except under necessity, such complex groupings as "maternal instinct" or "fighting instinct" and the like. Instances of the same instinctive activities being listed under several "instincts" by the same author were cited.

Sessions for Experimental Psychology

E. S. Robinson, of Yale University, found in three experiments that decided retroactive inhibition of recall occurred when material similar to that originally learned is studied immediately after. Little or no retroactive inhibition was found when the interpolated study involved dissimilar material. The influence of competition produced by the subject keeping his own score in the case of motor reactions to sound or light is to keep the tonic of specific groups of muscles (finger-eye-ear accommodation) at a higher level and to reduce efficiency in scoring results, according to experiments conducted by A. P. Weiss, Ohio State University.

That the rational element in belief has been much over-estimated appears from experiments reported by A. A. Roback, of Harvard University. In judging passages, given anonymously, from such writers as St. Anselm, St. Thomas Aquinas, Nietzsche, Swedenborg and others as (a) absurd, (b) credible, (c) acceptable, (d) convincing, the congruity of imagery induced by the passage with memories of similar situations, plus emotional responses and muscular sets, seems fundamental. Acceptance is characterized by "a tingling in the chest and feeling of well being"; rejection by tenseness, contraction of muscles in throat and chest, checking of respiration and other kinæsthesia. Repeated reading of a passage generally serves to modify the original attitude in the opposite direction, convincing passages shifting to doubt, absurd passages becoming more credible.

F. A. C. Perrin, of the University of Texas, reported upon a variety of tests of motor ability, involving simple and complex reactions. A complex motor ability can not be readily explained as a simple compound of such specific functions as accuracy, rhythm, and speed. The nervous mechanisms involved in ambidexterity and fine coordinations resist analysis at present. The correlations between university grades, mental tests and estimated "character" and success in motor abilities were low. Emotional disturbances and attitudes—feeling of inferiority, self-consciousness—produce marked changes in performances in such motor functions.

The prevalent belief that our judgments in the fields of appreciation of music or literature as well as in morals are considerably in-

fluenced by the contrary opinions of the majority or of experts in these fields is supported by experimental data obtained from college students by H. T. Moore, of Dartmouth College. Comparisons with control groups yield results showing that the knowledge of contrary opinions of the expert or the majority produces reversals of individual opinions in matter of speech amounting to 4 or 5 times mere chance. Moral reversals under majority influence are 4.7 times chance, whereas reversals of musical preferences as a result of expert or majority opinions is about twice chance.

Circulatory changes in the arm as the result of mental or physical work were studied by John E. Anderson, of Yale University, by means of a Lehmann arm plethysmograph. Physical work for a one-minute period is accompanied by vaso-dilatation in 47 to 74 per cent. of the cases, followed usually by a continuous tendency toward constriction when work is continued for an hour. Mental work—counting, reading, adding, *etc.*—shows vaso-dilatation in the arm in approximately 75 per cent. of the cases. The volume variation is decidedly individualistic and constant for the same subject in repeated tests.

Using a new form of substitution test (nonsense material to be transliterated into ciphers), H. M. Johnson and Franklin C. Pashal, of the U. S. Air Service Medical Research Laboratory, found a definite tendency toward negative acceleration of improvement when the oxygen supply became “moderately” low. Individual differences occurred, but in general a marked loss of speed and accuracy or both appears, accompanied by increased effort, on occasions, to compensate for obviously diminished performance. The curve of learning shows frequent spurts until a certain minimum of oxygen supply brings a breakdown.

C. E. Seashore, University of Iowa, demonstrated the localization of sound by wave phase in open-air conduction. Certain laws of the movement of this phantom sound with reference to synchronism, distance, pitch, intensity, timbre and direction of the two courses were presented together with a wave phase localization interpreted in terms of intensity.

The Influence of Expectation on Supraliminal Discrimination of Sounds was the subject of a paper by L. R. Geisler, of Clark University. The intensity or extent of a variable stimulus is the more erroneously judged the more it differs from the expected standard. The tendencies to err are always in the direction of the expected standard. The errors are greater when the expected standards are presented to the sense, than when they are merely in the form of recall of a standard presented previously. The explanation suggested is that errors are due to definite muscular sets involved in the

expectant attitude which interferes with the proper neuro-muscular readiness to receive the new stimulus. Samuel W. Fernberger, of Clark University, also reported upon an experiment designed to test expectation, in the case of lifted weights. In one series of tests the central stimuli (96 and 100 grams) immediately followed the heaviest stimulus (104 grams); in a second series, the central stimuli followed the lightest stimulus (88 grams). There appeared a constant tendency to judge the critical stimuli (96 and 100 grams) lighter when they followed the 104 gram weight and heavier when they followed the 88 gram weight. Practise served to increase rather than decrease such errors of expectation.

L. T. Troland, of Harvard University, found that when a spot of light of appropriate area is thrown upon the retina in the general region of the yellow spot, bands of luminosity can often be seen which connect the stimulus spot with the vicinity of the blind spot. A study of the course of these bands for different shapes and locations of the stimulus spot, in comparison with the histology of the nerve fiber layer of the retina indicates that they are due to secondary stimulation of retinal fibers by the impulses passing along adjacent fibers.

That the determinants of the optimum intensity of light for ordinary work should be made by momentary exposures of visual stimuli rather than by prolonged (say a 3 second) observation appeared from experiments reported by P. W. Cobb, Captain M. C. Medical Research Laboratory, Mitchell Field, L. I. The eye in ordinary work functions in series of momentary fixation pauses, and tests of visual acuity should conform to such habits. It was suggested that eye fatigue under unfavorable distributions of light might be due to disturbances in habits of fixation rhythms owing to a slowing of the retinal responses, paralleling the effort attending the attempt to adjust one's walking movements to a step much different in length or frequency from the customary one.

In response to the need for a rapid test to select men for lookout or signal service work in the Navy, an acuity lantern and illumination scale for the detection of small errors in refraction was devised by C. E. Ferree and G. Rand, of Bryn Mawr College. Roughly, but 25-30 per cent. of the men on battleships have sufficient acuity of vision to qualify for such observational work. The apparatus devised has proved of value in clinical practise for the determination of the exact amount and placement of the correction of astigmatism.

Three methods of securing physical measurements and specifications of color were described by Lloyd A. Jones and Prentice Reeves, of the Eastman Kodak Co. W. R. Niles, of the Carnegie Nutrition

Laboratory, explained an apparatus of simpler construction and operation than the Dodge photographic technique for recording ocular movements. This apparatus was used for obtaining a speedy and reliable quantitative score for the accuracy of eye-hand pursuit coordinations of candidates for service as aviators. A correlation of $+0.40$ was found between success in this test and "progress in learning to fly."

The Session for Experimental Psychology closed with a paper by Captain Garry C. Myers, Camp Upton, concerning the rôle of imagination as an indication to the motives, interests and aptitudes of young children.

Session for Intelligence Tests

Much interest was evoked by data presented by E. A. Doll, of Princeton University, from a million and a half army recruits and other subjects as regards the median mental age of adults, commonly assumed to be about sixteen years for unselected groups. The Stanford-Binet median mental age equivalent of army recruits is thirteen years; of negro and foreign-born recruits ten years; of adult male state prisoners thirteen, the actual tests used in each case being the Army Alpha. Five hundred typical public-school children examined by Alpha show no increase in median scores by age after thirteen, the same being true of juvenile delinquents, ages sixteen to thirty years. From these data the suggestion was made that the median mental age level of native white adults is approximately thirteen years. No attempt was made to determine the life age limit of mental age growth, since, it was suggested, "emotional development, skill, acquisitions aptitudes and the like probably continue to develop indefinitely." The upper age limit of feeble-mindedness is not coincident with the lower mental age limit of normality, since it appeared that the borderline zone for feeble-mindedness may cover a range from mental age seven to thirteen years. The application of mental age or I.Q. as criterion of mental defect is specially limited in the case of individuals of ten or more years chronological age. Data harmonizing with these results was presented by F. L. Wells, of McLean Hospital. The median I.Q. (Stanford scale) of 102 cases of mental breakdown at McLean is 88, but I.Q.'s of 100 are frequent and I.Q.'s of 119 have been found in patients conspicuously incapable of self-maintenance. Only in the organic psychoses does the breakdown regularly involve the ideational capacities with which the intelligence scales are concerned. Normal and even superior "intelligence" is often associated with grave judgment and conduct disorder. Intelligence scales measure essentially ability to deal with ideas, as distinct from ability to deal

with things or with people. Psychotic breakdowns are essentially failures of adjustment to the social environment. The speaker emphasized the minor rôle of "intelligence" (ideational capacity) in mental balance, urging a conception of education as a discipline of character rather than knowledge.

With a few changes, the Binet tests were successfully employed by S. P. Hayes, Mt. Holyoke College, in measuring the intelligence of the blind. A modification of the Pressey group tests also gave high correlations with the Binet scores and abilities estimated by teachers. E. L. Woods, Wisconsin State Department of Public Instruction, reported on the use of the recently devised Virginia tests Alpha in group testing of intelligence of delinquent girls. J. B. Miner, Carnegie Institute of Technology, displayed a method of utilizing three-dimensional models for representing individual differences in complex abilities such as salesmanship. Certain relations not now taken care of in frequency tables, correlations, multiple regression, *etc.*, can be displayed by such models.

L. W. Webb, Northwestern University, found the Pearson coefficient of correlation between rate of reading (Monroe Silent Reading Test) and the Army Alpha and Thurstone tests *A* and *B* ranging from $+0.47$ to $+0.59$; comprehension of reading gave coefficients ranging from $+0.48$ to $+0.69$. Speed and comprehension of reading correlate $+0.85$. The speaker contended that these correlations show too large a dependence of the pencil and paper tests upon rapidity of comprehension in reading.

L. M. Thurstone, Carnegie Institute of Technology, found the cycle-omnibus form of intelligence test to be of great service in furnishing data for recommending candidates for admission to engineering colleges, in advising committees on scholarship in cases of delinquent students and in giving vocational counsel. S. S. Colvin, of Brown University, reported a correlation of $+0.60$ between success in The Brown Intelligence Tests and the standing in college for the first two terms. The Thorndike Tests, first used in 1919, proved to be of great prognostic value and showed a high correlation with itself in repeated tests on the same subject.

Joint Meeting with the American Association of Clinical Psychologists

D. Mitchell, Pelman Institute, defined clinical psychology as a "professional practise" as contrasted with the "science" of laboratory psychology. Clinical psychology was again contrasted with "applied psychology" largely on grounds that the latter field may have no relation to the individual. Clinical psychology is the practise of determining mental status in order to prescribe kinds and

methods of education, of detecting specific abilities and disabilities of vocational significance, and the manipulation of emotional development for desirable social reactions. Dr. A. F. Bronner, Judge Baker Foundation, emphasizing the function of clinical psychology as that of individual diagnosis, gave illustrations of the failure of general intelligence tests to betray significant variations in mental equipment. The necessity of devising tests for many specific abilities was urged. Florence Mateer, Bureau of Juvenile Research, has found that whereas the mental age or I.Q. is of little value in the detection of psychopathic conditions due to syphilis, a detailed account of the range of plus and minus scores, and more precise measures of the individual responses often give a reliable clue to either congenital or acquired syphilis. The same type of analysis generally differentiates the psychopathic from the non-psychopathic, no matter what the mental age may be.

E. E. Southard, Psychopathic Hospital of Boston, presented a table of terms for the systematic expansion of terminology for mental symptoms and processes. Arnold Gessell, Yale University, discussed several cases of hemi-hypertrophy in relation to mental defect. Morton Prince gave several illustrative cases of a method of securing dissociation of the mind whereby one of two or more antagonistic trends becomes dominant, thus permitting an insight into the conflicting motives.

H. L. Hollingworth, Columbia University, presented a new interpretation of functional neuroses, in terms of redintegrative reactions. In normal processes of perception or thinking the stimulus is a portion of a former gross situation which redintegrates the total responses. The distinction between the redintegrative reaction of the normal and the neurotic is that in the former only a significant detail provokes the total reaction—not any chance item. Redintegration may take place on the cortical level leading to ordinary understanding, thought or perception, or it may take place on the postural level giving the picture of conversion hysteria, or it may take place on the autonomic level giving rise to the anxiety neurosis. If cortical redintegration takes place, the postural and autonomic responses may be determined by the total pattern of the stimulus and are not redintegrative. Cortical immaturity or weakness would mean greater redintegrative predisposition on the other two levels. Since the postural level is more closely connected with the cortical level than is the autonomic, intellectual inferiority would predispose one more definitely toward conversion hysteria than toward the anxiety type. Measurement of psychoneurotic soldiers shows that not only are they in general intellectually inferior, but also the conversion forms represent a lower intelligence level than do the anxiety forms.

A most valuable and practical method of evaluating school attainments in terms of mental ability is the result of studies by Rudolf Pintner, of Ohio State University. A mental test alone is not sufficient to diagnose a child accurately; measures of school attainment based on both age and grade norms are needed. Two survey tests, one mental and one educational, were devised and applied to 1,500 cases. Percentile values are converted into a so-called "index" ranging from zero to one hundred. The median indices serve as a measure for the school. A high mental age with low educational index indicates deficiencies in instruction, whereas a close agreement between the two indices indicates efficiency in the school. In the same way different classes in the same school or different individuals in the same class may be compared, enabling one to correlate innate ability with possible attainment and to apply corrective measures when the need appears.

Session for Educational and Comparative Psychology

J. F. Dashiell, University of North Carolina, pointed out certain errors in the straightforward statistical explanation of learning in the maze by the factors of frequency and recency. The contention was based upon such findings as these: a rat will enter a blind alley opening straight ahead 5 times out of 8, the exit from a blind alley opening at the side is more likely to be in a forward than in a reverse direction in about the ratio of 3.5 to 1.

J. L. Ulrich, Johns Hopkins University, in maze experiments with rats emphasized the rôle of reflex mechanisms in learning as opposed to sensory motor connections or "sensory impressions." The reflex extension and flexion of the rat's limbs were discovered to be of great influence upon learning in the maze.

W. T. Shepherd, Washington, D. C., in a study of 148 children, ages eight to thirteen years, emphasized the importance of the educational and social experiences and of the influence of respected teachers or friends upon the development of religious ideals.

Tests devised to measure such functions as persistence, conscientiousness, application and emotional control are being applied to Junior High School and other students by S. L. Pressey, of Indiana University. Correlations of results from these tests with general intelligence, health and estimates of intelligence were presented. L. C. Pressey, Indiana University, urged group testing of general intelligence in the primary school as a means of studying the effect of school training upon tests subsequently given. Data permitting comparisons of test findings on children of the laboring and professional classes, whites and negroes, *etc.*, were presented. E. A. Kirkpatrick, Fitchburg State Normal School, believes that

normal school pupils may be trained in fifteen hours to use the Binet tests in classifying pupils. Less time is required to handle group tests, but much more is needed to enable the student to score, tabulate and interpret the results. Daniel Starch, University of Wisconsin, found in data obtained from 1,000 first-year pupils, that approximately equal mental ability may exist with great differences in language ability. Correlations ranging from $+0.25$ to $+0.28$ between interest in college subjects and grades received in them were found by K. W. Bridges, Ohio State University. The correlation between interest and the subject's estimate of his ability in the courses was higher $+0.50$ to $+0.59$.

Session for Social and Applied Psychology

F. H. Allport, Harvard University, reported on experiments dealing with influence of the presence and actions of other human beings upon the motor, emotional and mental performances of a subject. The chief results noted were (1) a facilitation of movement, (2) a compulsion toward haste at the expense of quality, (3) an objective direction of attention, (4) experiences of rivalry, and (5) tendency toward social conservatism in the returning of judgments.

The auditory reaction-time tests used chiefly by the Italian Government for the selection of aviator pilots were applied to successful and unsuccessful American aviators by F. C. Dockeray and S. Isaacs, with satisfactory results. Success in a rather simple test of muscular steadiness showed a high correlation with ability in flying.

E. P. Frost, of the Rochester Chamber of Commerce, emphasized four industrial problems which offered special opportunities to the psychologist: (1) The reduction of labor turnover by means of selecting men adapted by intellect, temperament and special abilities to the particular task; (2) by devising programmes for the Americanization of foreigners and illiterate through wise education; (3) by testing the problems of the shop foreman both as to the management of labor and the conduct of the vestibule or training school, and (4) by contributing to the effectiveness of continuation schools where instruction is given during periods of the working day.

From data obtained in several extensive investigations cited by E. L. Thorndike, Teachers College, Columbia University, it appears that even experienced judges can not treat an individual as a compound of separate qualities, such as intelligence, industry, technical skill, reliability, *etc.*, and to assign a magnitude to each of these in independence of the others. The correlations between such traits are too high and too even, the ratings being apparently affected by a

marked tendency to think of the person in general as rather good or rather inferior and to be influenced in all judgments by this general attitude. It was suggested that observers should report *the evidence*, not a rating, and that the ratings should be given on the evidence for each quality separately.

D. G. Paterson and B. Ruml, The Scott Company, described a method of obtaining more objective criteria in the use of rating scales. By the older method, leadership, for example, might be defined and judged in terms of initiative, force, self-reliance, tact, loyalty, cooperation, *etc.* By the suggested scale one would judge the ability to develop a loyal and effective organization by administering justice, inspiring confidence and winning the cooperation of his subordinates—a “man to man” type of comparison. Tendencies for single judges to estimate too high or too low might be corrected, by the devise of “Master Scales.”

A. W. Kornhauser and B. Ruml, of the Scott Company, reported on some recent developments in trade-test theory. The usual form of trade test consists of a fixed set of questions with norms established for the test as a whole. A new departure consists in establishing norms for the individual questions. Hence (1) a test may be made as brief as desired, (2) it may be varied at will to prevent coaching, (3) it becomes unnecessary to give easier questions than those already passed or more difficult ones than those already failed, (4) new individual questions may be added or undesirable ones dropped without necessitating a restandardization of the norms for the whole test. By a change in the use of regression lines from the method employed in the army test, wherein the average score in the test giving the grade of trade ability, to the reverse wherein the actual numerical chance that a man making a particular score or an individual question is a novice, apprentice, journeyman, or expert, it is possible (1) to place each question at the level where it differentiates most effectively, (2) questions may be weighted in proportion to their differentiating value, and (3) questions may be weighted differently if passed or failed.

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REVIEWS AND ABSTRACTS OF LITERATURE

General Psychology. WALTER S. HUNTER. Chicago: The University of Chicago Press. 1919. Pp. xiii + 351.

This is another elementary text on general psychology. So many brief books on psychology have been published in the United States that there seems to be no excuse for extending the list.